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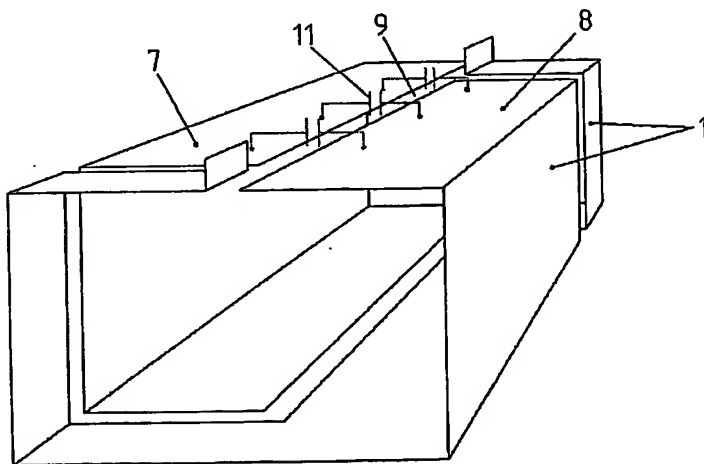
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(54) Title: A SYSTEM AND METHOD FOR DETECTING SPECIFIC SUBSTANCES USING NUCLEAR QUADRUPOLE RES-
ONANCE, AND A COIL USED THEREWITH



(57) Abstract: A ribbon width coil (1) compris-
ing two non-contiguous turns (7, 8) circumscrib-
ing a rectangular volume in a matching inverse like
manner. Each turn at its beginning has a longitudi-
nal width smaller than at its other end. The smaller
width portion extends for half a turn with the wider
portion extending the majority of the length of the
coil. The turns are spaced by a marginal gap (9).
Between the turns crossing the gap capacitors (11)
may be placed to enable selective frequency tuning
of the coil. In another form, a plurality of sub-units
(10, 20) that each may include a ribbon width coil
(1) are located along a conveyor sub-system (100).
The sub-units are operated simultaneously and may
be adapted to detect NQR signals of the same or
different frequency bands. Received signals from
an article moving along the conveyor may be pro-
cessed to detect a range of explosives or narcotics
substantially simultaneously.

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